

# **Vision-100**

## **FAA Reauthorization**

The logo for the VALE PROGRAM features the word "VALE" in large, bold, white capital letters with a green outline, positioned above the word "PROGRAM" in smaller, bold, white capital letters with a green outline. The text is set against a green, semi-circular background that resembles a rising sun or a stylized horizon line.

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**Office of Airports**  
**Airport Planning and Programming**



# What is VALE?

- New permanent program
  - Began October 1, 2004
- Expansion of funding eligibility (not a budget) to allow:
  - PFC funding
  - Early reduction “stand-alone” projects beyond traditional “environmental mitigation”
  - Mobile sources
- Clarification of procedures
  - AIP Handbook & PFC Part 158 revisions
  - Easier documentation and justifications

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# Environmental and Energy Importance



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- Air quality is a growing issue
- New means for greater emission reductions at airports
  - Program involves all ground-based sources at airports except for aircraft
- Air quality and airport improvements can happen together
- Less reliance on foreign oil imports

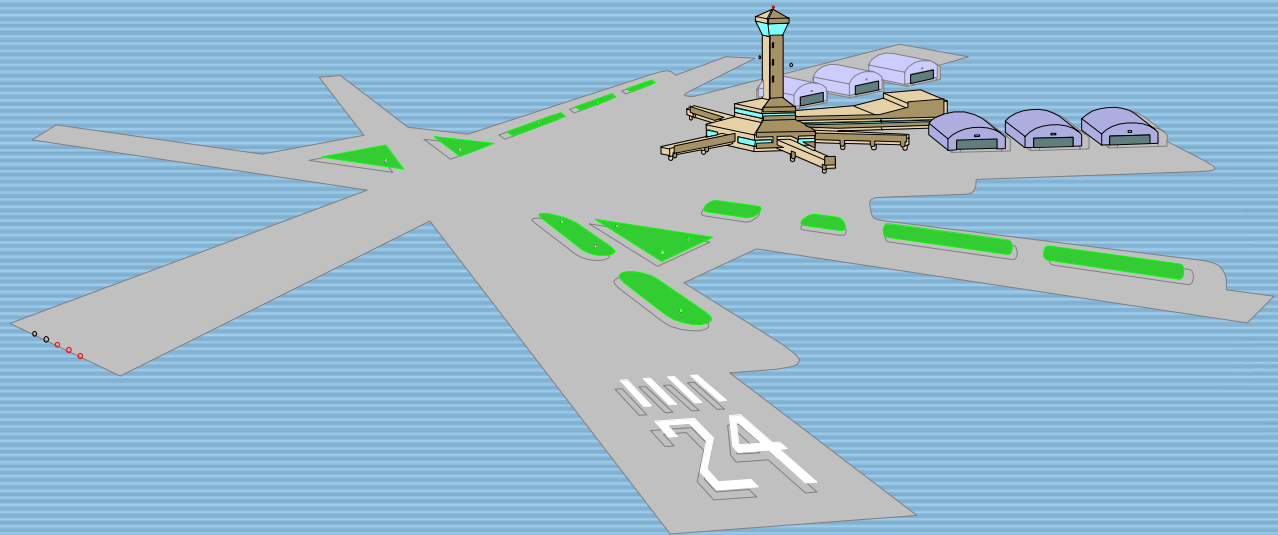




# Major Incentives for Early Action to meet Clean Air Act

1. More Federal \$\$ and resources
2. Airport emission reduction credits

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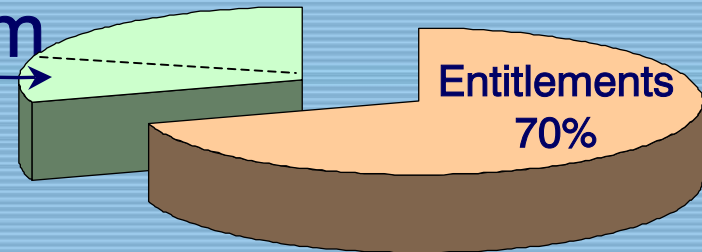


# Two Major Airport Funding Programs

## Airport Improvement Program (AIP)

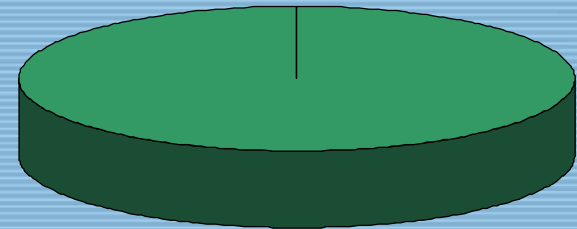
~\$3 Billion for FY'05

30% Discretionary  
1/3 is "noise and air quality set-aside"



## Passenger Facility Charges (PFC)

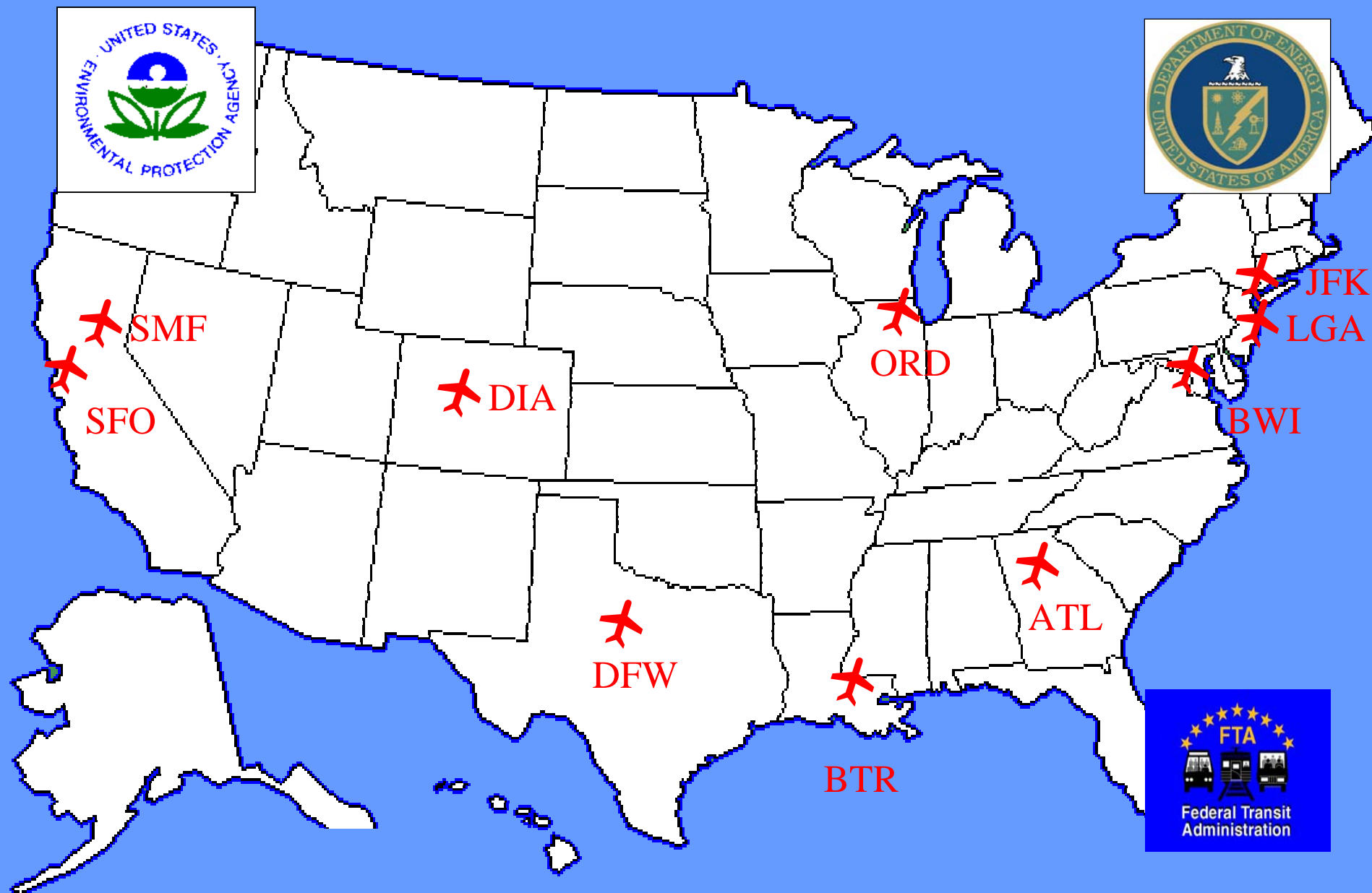
~\$2 Billion for FY'05



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# VALE is based on AIR-21 ILEAV Pilot with other Federal agency technical support





# Challenges

- Expanding to a national program
  - About 175 of 517 commercial service airports (>1/3) are located in nonattainment or maintenance areas, including 41 of the 50 busiest airports
- Allowing more alternative and clean conventional fuels, plus hybrid vehicles
- Developing low-emission vehicle standards
- Reaching national agreement with EPA on airport emission credits
- Integrating Vision-100 emission provisions
  - Clean Air Act
  - General Conformity and NSR regulations
  - AIP and PFC requirements

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# Program Linkages

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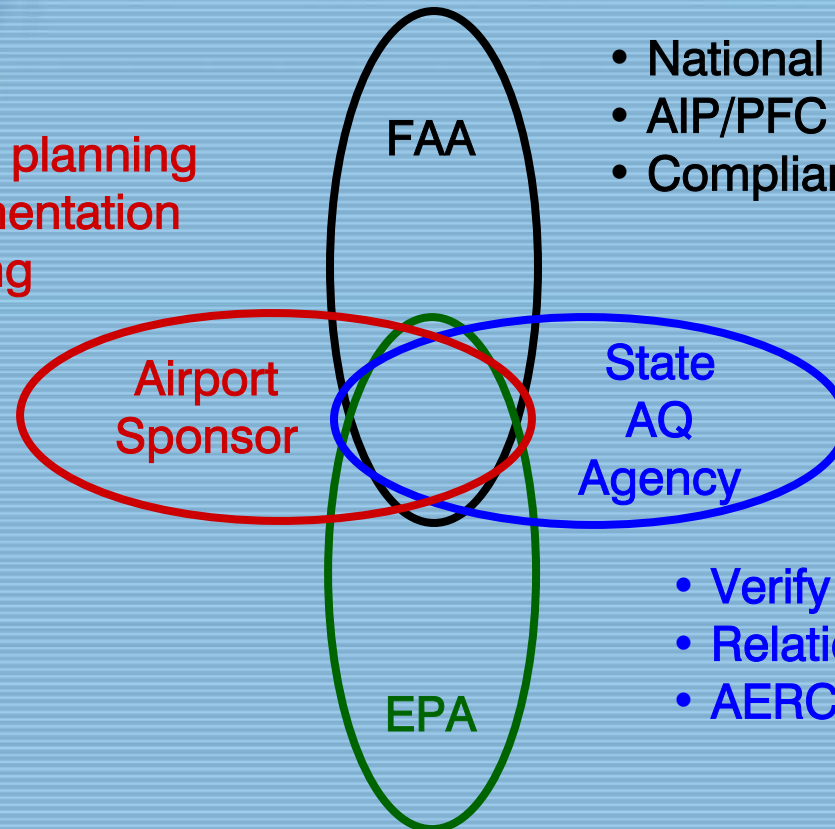
- **Similarities with Part 150**
  - Voluntary (for sponsors and States)
  - Airport-specific
  - Separate application process (VALE approvals are regional)
  - State coordination instead of public participation requirements
  - A few years to really get going





# Agency Coordination

- Project planning
- Implementation
- Tracking



- National program guidance
- AIP/PFC funding approval
- Compliance

- Verify surplus reductions
- Relation to SIP
- AERC issuance

- National AERC guidance
- Low-emission technology certification
- FAA standards support

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# Early State Coordination is Critical

- State's should assist in several ways:
  - Confirm airport NA/MA status
  - Provide fuel and technology information
  - Clarify AERC criteria (quantifiable, surplus, enforceable, permanent)
  - Explain possible overlaps with Transportation Conformity
  - Indicate whether VALE program will be inside or outside of the SIP (VALE cannot help to demonstrate future attainment, but can show that State “milestones” have been achieved)

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# Planning Checklist for Airport Sponsor



- State AERC letter of assurance to FAA
- Cost-effectiveness (deployment not R&D)
- Vehicle low emission standards
- Preferred alternative fuel(s)
- AIP/PFC availability
- Nonattainment/maintenance area
- Commercial service airport





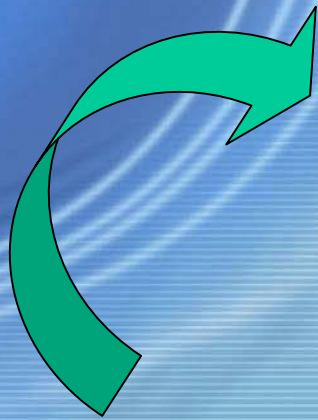
# General Eligibility

- Airport-dedicated operations
- Airport-owned equipment
  - Tenant-ownership allowed for PFCs
- Project must be primarily emissions related
  - Equipment usage to planned levels
- Standard grant assurances (AIP) & funding requirements (PFC)

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# Special Conditions for Sponsors



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1. **Equipment labeling**  
(vehicles and infrastructure)
2. **Vehicles remain at airport for useful life**  
(average years provided in guidance)
3. **Tracking and monitoring**
4. **Equipment replaced in-kind or cleaner**



# Airports are a microcosm of the national fleet





# Vehicle Eligibility

- On-road (GAV) and non-road (GSE)
  - No vehicles operating regionally (e.g., personal cars, taxis, super shuttles)
  - No O&M costs (e.g., fuel, battery replacement)
- New vehicles must be EPA-certified to meet VALE standards
  - Incremental costs only - no *base* costs
- Retrofits for existing vehicles must be EPA-verified
  - [www.epa.gov/otaq/retrofit](http://www.epa.gov/otaq/retrofit) (see technology, verified products)
  - Full cost of retrofit technology

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# Individual New Vehicle Low-Emission Standards

- Based on national fleet standards
- Emissions performance per vehicle for maximum benefit
  - Simplified (tail pipe emissions only)
- Reflects existing EPA standard-setting
  - Weight classes
  - On-road vs. non-road
  - Spark (gasoline) vs. compression ignition (diesel)
- Provides “safety net” to ensure cost-effective vehicle acquisitions regardless of fuel choice
- Balances commercial availability and “best achievable” emission reductions

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# Alternative Fuels for AIP

- Vision-100, AIP–Sec. 159(d)  
*“Low-emission technology ...that relies exclusively on alternative fuels that are substantially non-petroleum based, as defined by the Department of Energy, but not excluding hybrid systems...”*
- Defined by DOE EPCAct
- Fuel neutral
- Alternative fuels are well-suited to airports
  - Centralized traffic patterns
  - Available land for safe refueling

## Eligible Alt. Fuels

- Electric
- Natural Gas
- Propane
- Ethanol 85
- Methanol 85
- Hydrogen
- Coal-derived liquids
- Biodiesel (B100)
- P-series
- Hybrid Technology

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# Vehicle Eligibility Varies by Funding Source

## AIP Vehicles

- New vehicles
- AFVs and hybrids
- Airport-owned



## PFC Vehicles

- New and retrofit
- AFVs, hybrids, and clean conventional
- Airport-owned and tenant-owned



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# Eligible Infrastructure Examples



Tanker Trucks

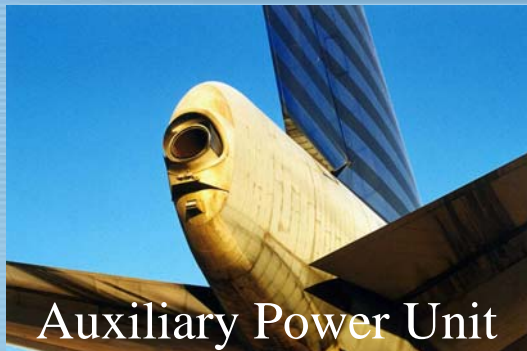
*Replaced by...*



Fuel Hydrants



Fuel Carts



Auxiliary Power Unit

*Emissions  
reduced  
by...*



Ground Power



Pre-conditioned Air

- Refueling/recharging stations (public access possible)
- Conversions of airport power plants, generators, and other combustion sources to cleaner fuels
- Public transit lines/connections (only portion on airport property)



# Infrastructure Not Eligible

- Parking lots and garages
- Rental car consolidation facilities
- Fuel farms
- Research-related projects
- Other private revenue producing projects

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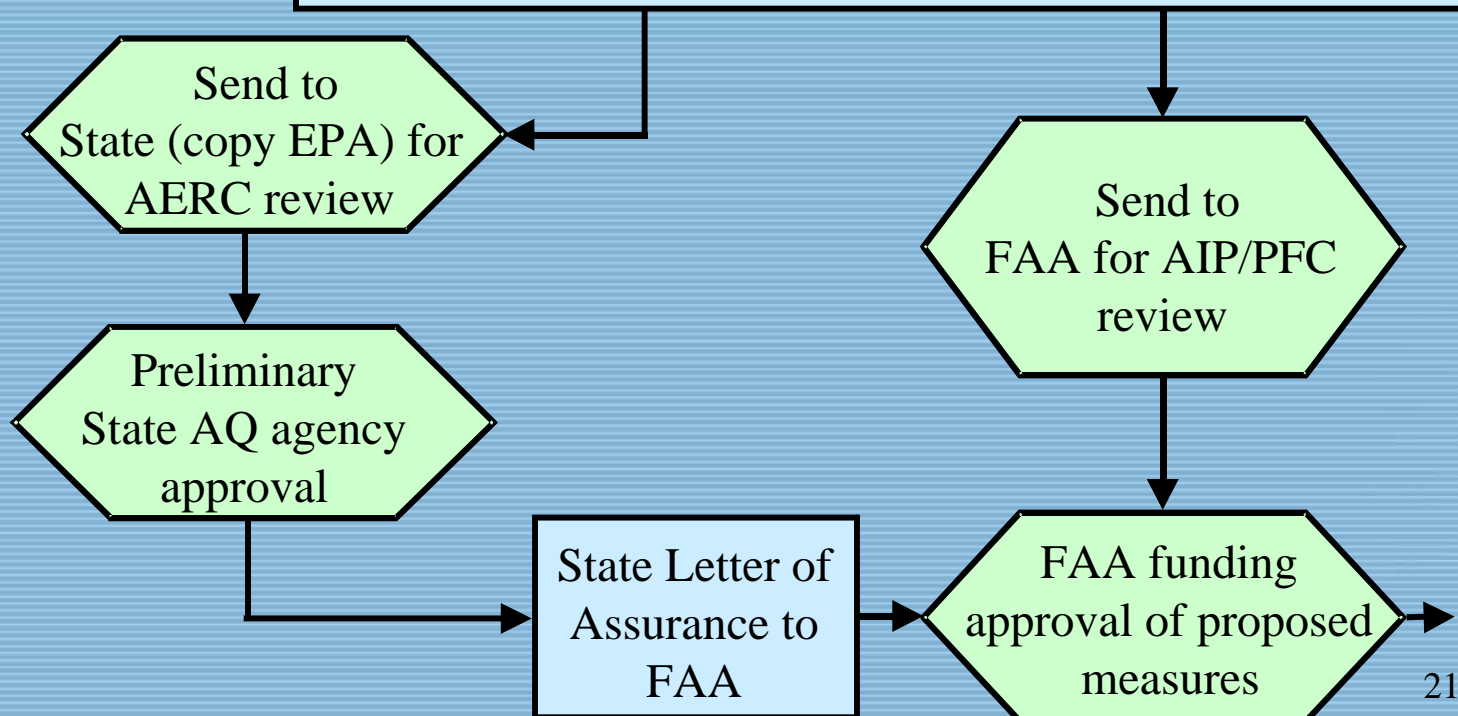




# Project Application Phase

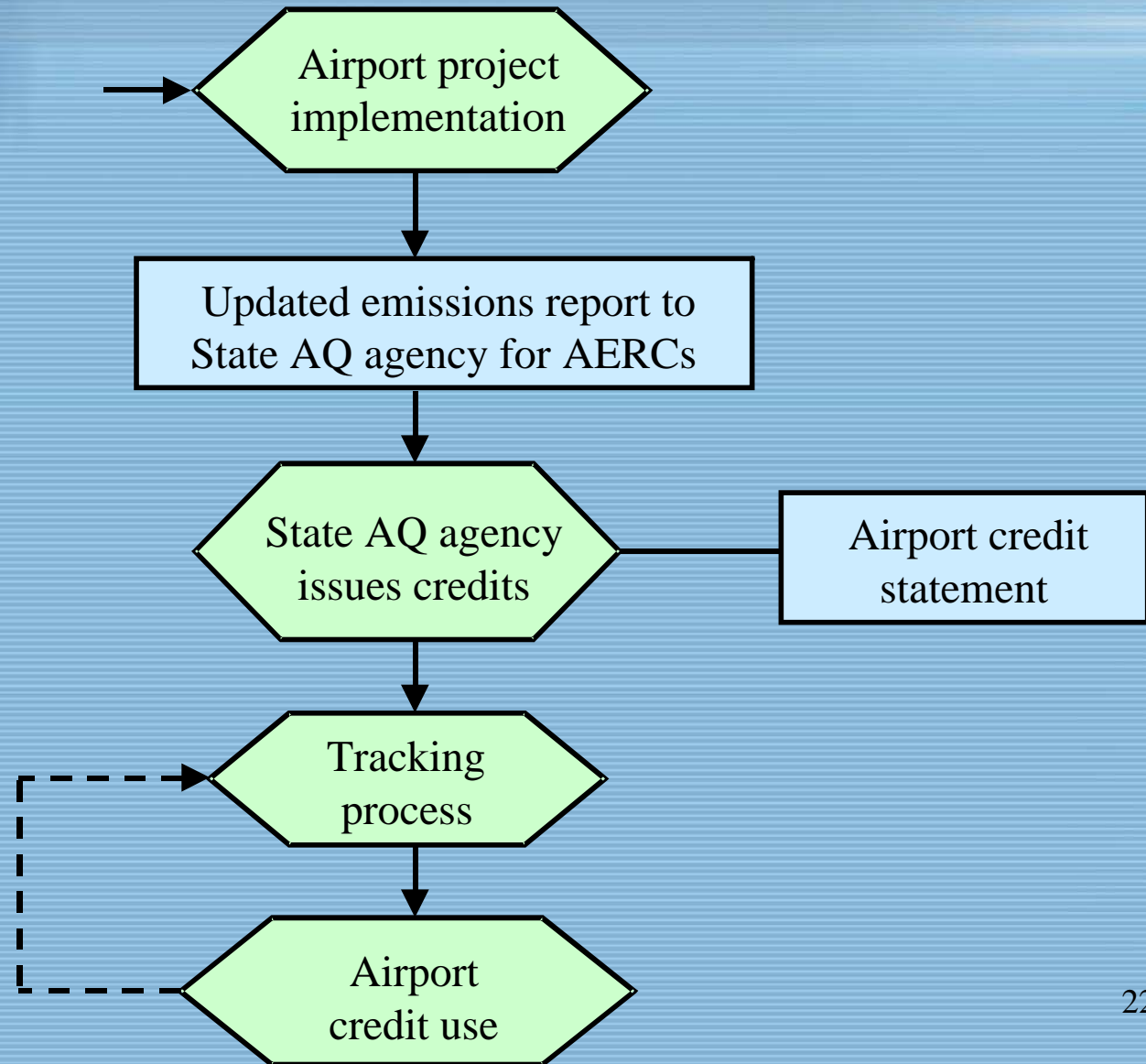
## Project Proposal Contents

- Describes measures
- Quantifies emission reductions
- Meets CAA criteria (surplus, permanent, enforceable)
- Shows possible relationship to State air quality plans





# Project Implementation Phase





# FAA Funding is Contingent on State Credit Guarantee

- AERCs alter the old “dynamic”  
*“Why should the sponsor voluntarily expend mitigation measures that could help later?”*
- Sponsors can use AERCs for:
  - General Conformity
  - New Source Review
- *Vision-100* AERC requirements
  - Consistent nationally
  - Meet CAA criteria: quantifiable, surplus, permanent, Federally enforceable
  - Issued on a timely basis
  - Available to ILEAV projects retroactively

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# AERC Allocation Rules

- **Airport-specific**
  - No banking
  - No trading
  - No state “fees” from AIP or PFC
- **Annualized method by individual year**
  - Emission reductions computed for project useful life
  - Annualized AERCs are available once per year
- **AERCs earned and used by pollutant**
  - 1:1 ratio (e.g., 1 ton of NO<sub>x</sub> savings = 1 NO<sub>x</sub> AERC)
- **Use with General Conformity**
  - Applied as “design measures” to de minimis levels
- **Use with NSR**
  - Applied as “offsets” under applicable NSR regulations (e.g., may include discounting, existing equipment only)

EPA warns States that “*such conditions might suppress airport interest in early action*”

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# **Preparing the Proposal: Main Body: 9 Sections**

1. Sponsor and project information
2. Project description
3. Emission reduction estimates
4. Confirmation that emission reductions meet CAA criteria
5. Relationship to SIP
6. Funding source (AIP, PFC, local)
7. Cost effectiveness
8. Tenant-owned commitments
9. Project schedule

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# Preparing the Proposal: 4 Appendices

## *Appendix A*

Project application worksheets

## *Appendix B*

EDMS outputs and supporting  
emissions data

## *Appendix C*

Draft AERC letter of assurance  
from State air quality agency

## *Appendix D*

PFC enforceable agreements

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# GSE Retrofit Pilot Program

- AIP-funded GSE retrofits
  - Cleaner technology and fuels
  - Tenant ownership and supporting infrastructure allowed
- 10 commercial service airports in NA/MAs
  - Each grant up to \$500,000
- Application similar to VALE
  - Cost effectiveness
  - EPA-verified control technology
  - State emission credit assurance
- Project approval by Headquarters

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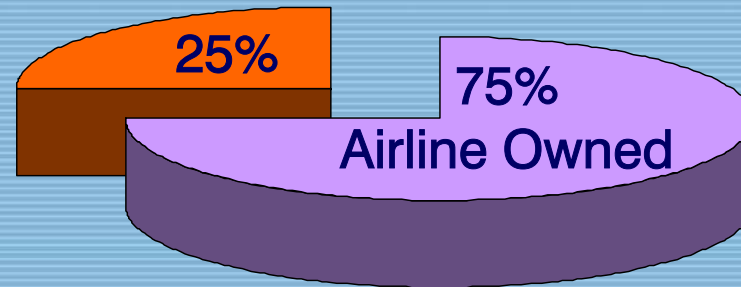




# GSE by Owner & Fuel Type

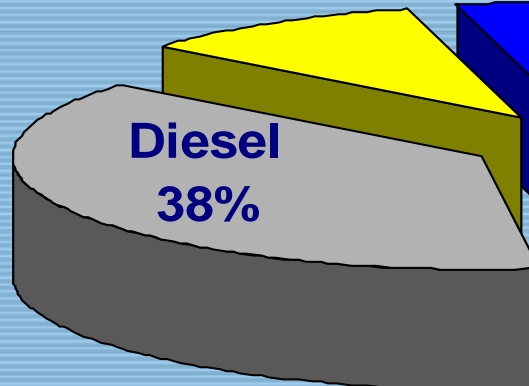
(about 72,000 total units – average age of 9 -10 years)

Other-owned

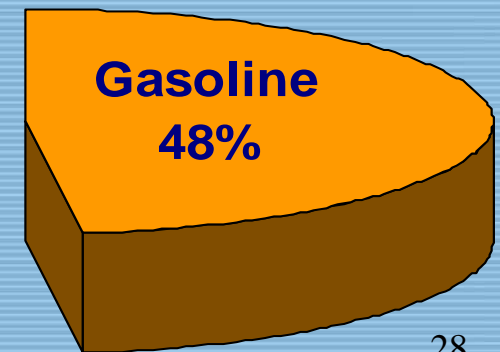


Electric  
10%

CNG/LPG  
4%



Gasoline  
48%



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# Program Management and Information

- Managed by FAA regional offices
  - Regional funding approvals
- Documents available at:  
*[www.faa.gov/arp/environmental/vale](http://www.faa.gov/arp/environmental/vale)*
  - List of eligible airports
  - AIP and PFC announcement letters
  - FAA Technical Report (V1.0)
    - V1.1 pending
      - ✓ FAA evaluation checklist
      - ✓ PFC timeframes
      - ✓ Clarification of eligible AIP expenses
  - EPA/FAA AERC Report
  - Worksheets and label
- Supported by EDMS V4.2

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